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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/589,791	08/17/2006	Michael Dankert	2003P12715WOUS	3862
22116	7590	09/11/2008	EXAMINER	
SIEMENS CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 170 WOOD AVENUE SOUTH ISELIN, NJ 08830			DAVIS, OCTAVIA L	
ART UNIT	PAPER NUMBER			
	2855			
MAIL DATE	DELIVERY MODE			
09/11/2008	PAPER			

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/589,791	<b>Applicant(s)</b> DANKERT ET AL.
	<b>Examiner</b> OCTAVIA DAVIS	<b>Art Unit</b> 2855

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 23 May 2008.
- 2a) This action is FINAL.      2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 22-24,26-31,33,36-39 and 41-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 22-24,26-31,33,36-39 and 41-45 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- 1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) Notice of Informal Patent Application  
 6) Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 22 – 24, 26 – 31, 33, 36 – 39 and 41 – 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bruce et al (6,686,060) in view of Mansky et al 6,668,230), Yokoyama et al (5,831,299), Stanley et al (3,733,887) and Ogawa 4,794,797).

Regarding claims 22, 29 – 31, 37 and 41 – 45, Bruce et al disclose a thermal barrier coating material comprising a turbine component or blade 10, a super alloy substrate 22, a bond coat 24 arranged on the substrate, an MC<sub>x</sub>Al<sub>y</sub> layer that is an aluminum platinum and oxide material (See Col. 3, lines 29 – 36 and 47 – 55), measuring, re-measuring and recording a material parameter (See Col. 5, lines 25 – 28 and 44 – 47) but does not disclose measuring electrical capacitance, heat capacity, peltier coefficient, magnetic susceptibility, ferroelectricity and pyroelectricity. However, Mansky et al disclose a computer readable medium for performing sensor array based materials characterization comprising measuring the heat capacity of materials (See Col. 20, lines 37 – 39), measuring electrical properties of materials (See Col. 59, lines 51 – 61), and measuring magnetic properties of the material (See Col. 54, lines 46 - 51, wherein each measurement is performed numerous times (See Col. 20, lines 25 – 33 and Col. 24, lines 12 – 25). Yokoyama et al disclose a thin

ferroelectric film element comprising means for measuring the ferroelectric properties of a material numerous times (See Col. 9, lines 55 - 66). Stanley et al disclose a method and apparatus for measuring the thermal conductivity and thermoelectric properties comprising means for measuring the peltier coefficient in materials by using the peltier method and using the peltier effect to establish temperature difference across materials (See Col. 2, lines 56 – 63). Ogawa discloses a method of detecting structural abnormality of a substance comprising measuring and detecting pyroelectricity in a material substance numerous times (See Col. 9, lines 1 – 10, 27 – 31 and 58 – 67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Bruce et al according to the teachings of Mansky et al, Yokoyama et al, Stanley et al and Ogawa for the purposes of, advantageously providing a computer program for enabling a processor in a computer system to analyze one or more material properties (See Mansky et al, Col. 60, lines 44 - 48), advantageously providing a thin film material in which a sufficiently high spontaneous residual polarization and a sufficiently low coercive field are achieved at an annealing temperature lower than that by conventional methods (See Yokoyama et al, Col. 4, lines 10 - 15), advantageously providing an improved method and apparatus for determining the properties of thermo electric materials by measuring peltier and electrical properties (See Stanley et al, Col. 3, lines 17 – 24) and accurately locating and identifying the degree of structural abnormality resulting from stresses caused by various external forces in a structure (See Ogawa, Col. 9, lines 51 - 59).

Regarding claims 23 and 24, in Bruce et al, the first measurement is performed on a new component (See Col. 5, lines 25 – 30 and 40 – 50).

Regarding claims 26, 27 and 33, in Bruce et al, the component 10 comprises a substrate 22, a first layer 24 and an outer layer (See Fig. 1).

Regarding claims 28, 31 and 34, in Bruce et al, changes in the substrate are caused by cracks in the substrate or layer (See Col. 1, lines 48 – 52).

Regarding claim 36, in Bruce et al, the layer is an McRAIX layer (See Col. 3, lines 47 - 54).

Regarding claim 38, in Bruce et al, the measurement is performed on line or sequence (See Col. 4, lines 61 - 67).

Regarding claim 39, in Bruce et al, a time period is determined where the component is inspected once a change in the material parameter is exceeded (See Col. 5, lines 44 – 51).

***Response to Arguments***

3. Applicant's arguments with respect to claims have been considered but are moot in view of the new grounds of rejection.

Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Octavia Davis whose telephone number is 571-272-2176. The examiner can normally be reached on Mon through Thurs from 9 to 5. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Edward Lefkowitz/

Supervisory Patent Examiner, Art Unit 2855

OD/2855

9/9/08